

Reducing Radicals/Pythagorean Theorem Homework

Name _____ Class _____ Date _____

Simplify each expression into **simplest radical form**. Show work.

1. $\sqrt{125}$

2. $\sqrt{512}$

3. $\sqrt{216}$

4. $\sqrt{75}$

5. $\sqrt{64}$

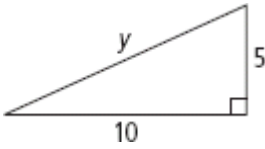
6. $\sqrt{96}$

7. $\sqrt{72}$

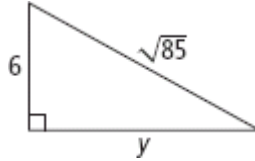
8. $\sqrt{150}$

Algebra Find the value of y . Express in **simplest radical form**. Show work.

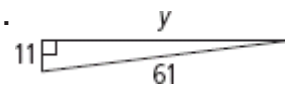
9.



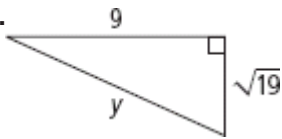
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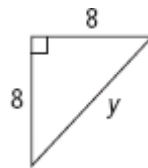
11.



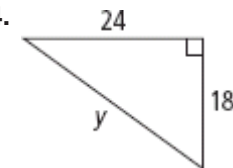
12.



13.



14.



The lengths of the sides of a triangle are given. Classify each triangle as *acute*, *right*, or *obtuse*. Show work.

15. 3, 8, 10

16. 4, 5, 7

17. 12, 15, 19

18. 10, 24, 26

19. 20, 21, 28

20. 20, 48, 52

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21. A square has side length 10 yd. What is the length of a diagonal of the square?

Express in simplest radical form. Show work.

22. A square has diagonal length 12 m. What is the side length of the square? **Express in simplest radical form. Show work.**

23. A repairman leans the top of an 8-ft ladder against the top of a stone wall. The base of the ladder is 5.5 ft from the wall. About how tall is the wall? **Round to the nearest tenth of a foot. Show work.**

24. A river runs straight through the center of a park. A man stands on one bank of the river, and his daughter stands across the river and 22 ft upstream. The man's son swims from the man to his daughter. If the river is 11 ft wide, how far does the son swim? **Round to the nearest foot. Show work.**